

NGOP Tutorial (Part I)

Learning to use NGOP Services

Class Goals

- To provide general information about NGOP architecture and basic understanding of NGOP terminology.
- To show where to find and how to use archived information
- To demonstrate how to navigate NGOP Web and Java Monitors.
- To explain the NGOP concepts of "object that is known to be out of service", maintenance intervals, service type.
- To demonstrate how to use Web Admin tool

Agenda

- NGOP Overview.
 - Terminology
 - Architecture
 - Monitoring Agents
- NGOP Archiver
- NGOP GUI
 - Web Monitor
 - NGOP Java Monitor
- NGOP Web Admin Tool

What is NGOP?

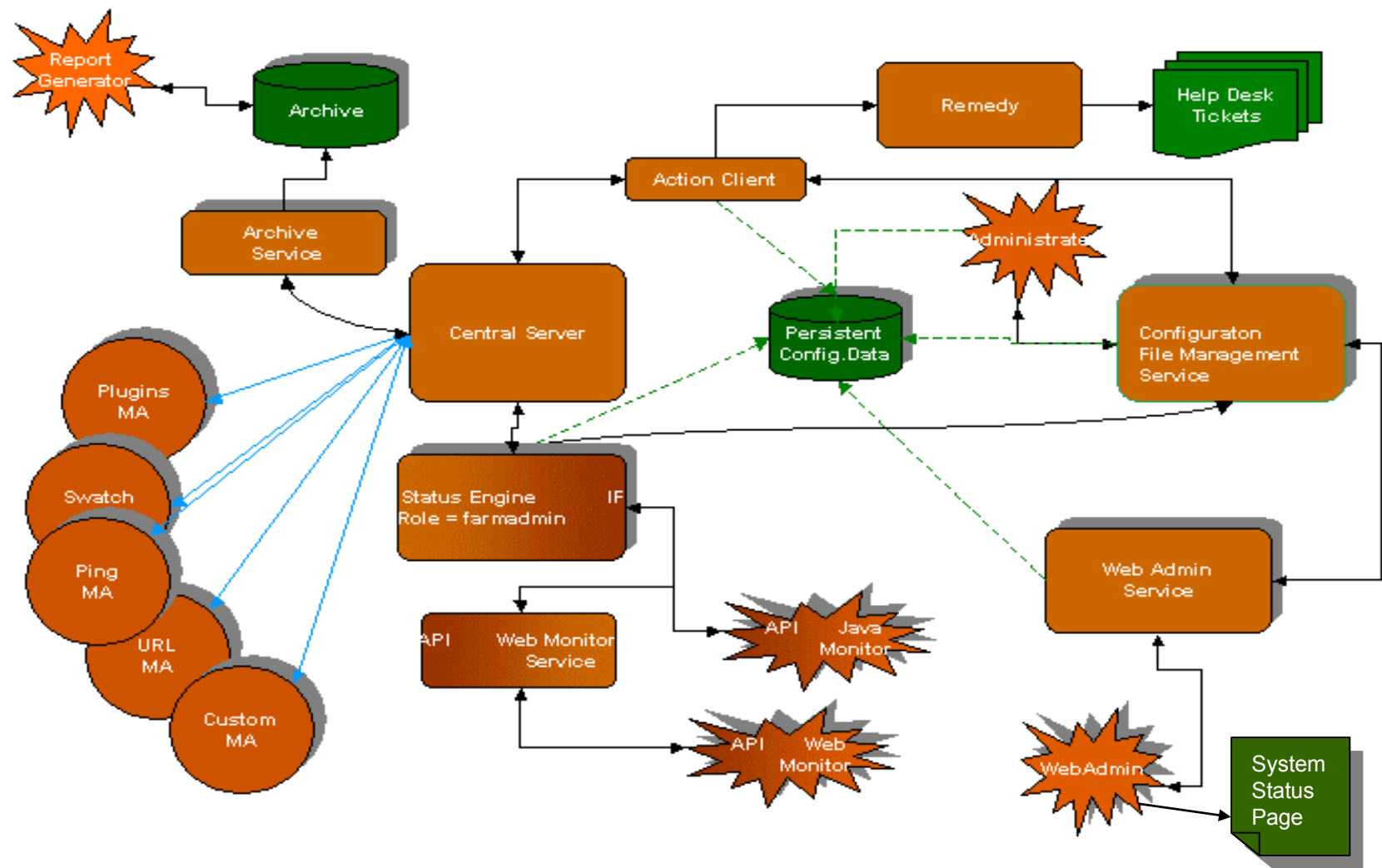
NGOP is a distributed monitoring system.

Main features:

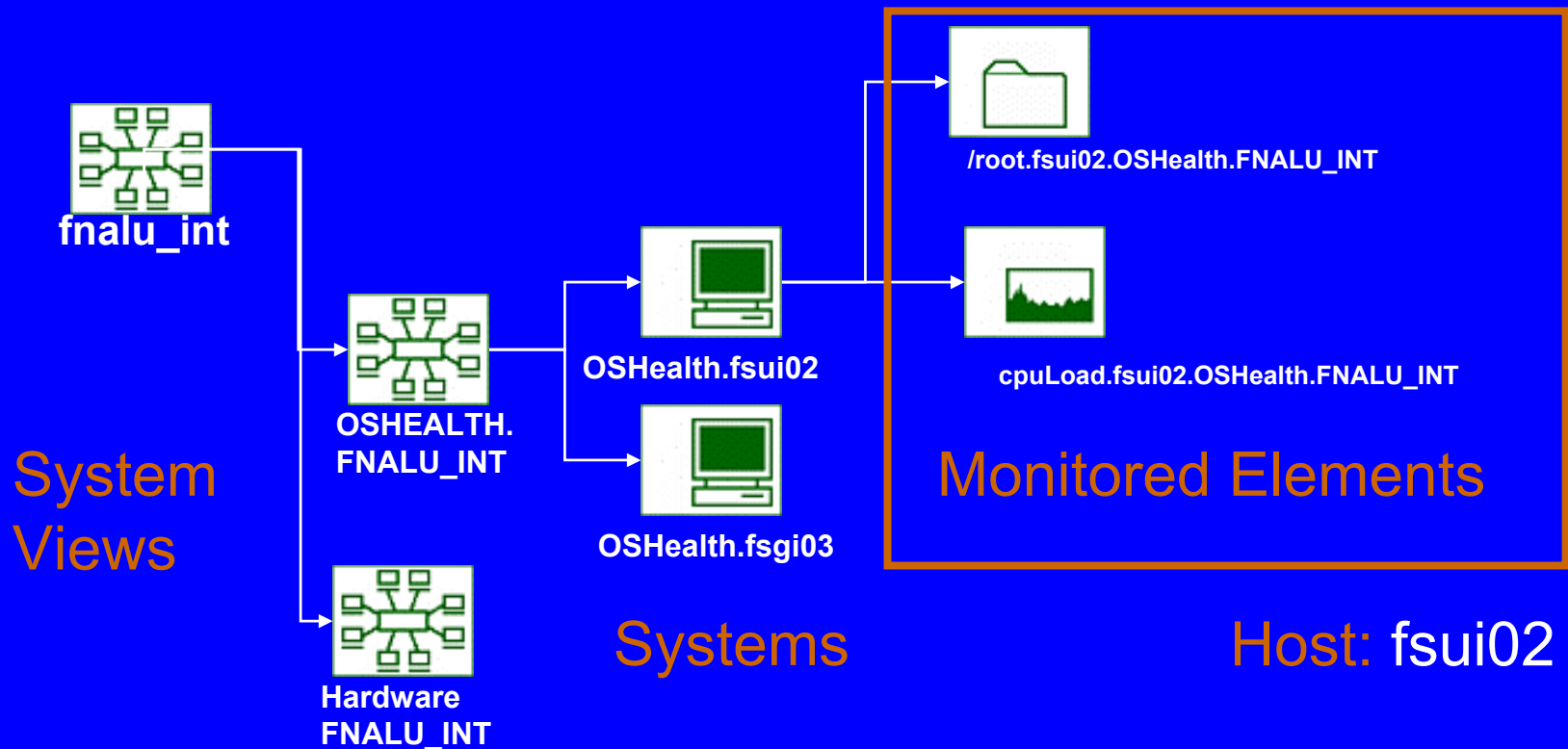
- Active monitoring of software and hardware
- Customizable service-level reporting
- Early error detection and problem prevention
- Persistent storage of collected data
- Capable of executing corrective actions and sending notifications

NGOP is a framework for developing monitoring tools.

NGOP Architecture



Terminology Example



Terminology

- Host : computer or an entity with an assigned IP address, identified by its name. (e.g. “fsui02”)
- Cluster : collection of Hosts that have a common usage or purpose and is uniquely identified by its name. (e.g. “FNALU_INT”)
- Monitored objects
 - Monitored element (ME): atomic entity that is monitored by NGOP. It has a well-defined behavior, A ME is located on a particular Host and belongs to a particular System. Each ME has a unique id that consists of the ME name, the Host name, the System name and the Cluster name. (e.g. file system – “/root”)
 - System: set of MEs that are logically integrated into one unit monitored by NGOP. A System is defined on a Cluster and may be distributed across multiple Hosts. A System has a unique id that consists of the System name and the Cluster name. (e.g system “OSHealth” that consists of system daemons, file system, system usage measurements that are crucial for operating system normal operation)
- Hierarchy of monitored objects
 - System view: logical collection of Systems, Monitored Elements and System Views. A System View is identified by its name and created by a user/administrator in order to create hierarchical structure in the NGOP Monitor. (e.g. system view “fnalu_int” that collects all the systems related to fnalu interactive cluster)

Terminology cont'd

NGOP components are exchanging messages. The behavior of NGOP component strongly depends on content of the message. There are several types of message:

- Event and Alarm:

- Events and Alarms can be generated by various NGOP components. They describe a detected condition.
- Event identifies the actual current problem (e.g. fan speed is below 3000).



- Alarm characterizes the condition that could cause problem in future (e.g. cpu load between 4 and 8)



Alarm

- Action:

- Action messages can be generated by various NGOP components. They describe the current state of the action.
 - Request Message (e.g. start remote action).
 - “Started” and “Ended” Message
 - Info Message (notification about local action)

Event/Alarm Message Structure

- Date: unix time of detected condition
- ID: unique name
- Type: type of monitored object (e.g. System Daemon, Hardware,...)
- Event Type and Name: an aspect of the monitored element that contributed to event initiation (e.g if type is “FileSystem” then Event Type could be “local” or “nfs” and Event Name could be “size”)
- Event Value: the current measurements that are associated with that aspect of the monitored element (e.g. “speed: 2000” for fan speed)
- State: Up, Down, Unknown
- Severity Level of Alarm: Good, Warning, Error,Unknown, Undefined, Not In Service
- Status: Defined by Status Engine Good, Warning, Error, Bad, Undefined, Unknown
- Description: human readable explanation of the occurred event
- Source: the name of the Monitoring Agent

Example:

Date=1039009139.88 ID=dev60cgi.fncdug1.misweb.MISCOM

Type=webpage EventType=URLCheck EventValue=0

Description=Check_of_http://fncdug1.fnal.gov:7777/dev60cgi/f60cgi_for_/module=MISCOMP/_succeeded.

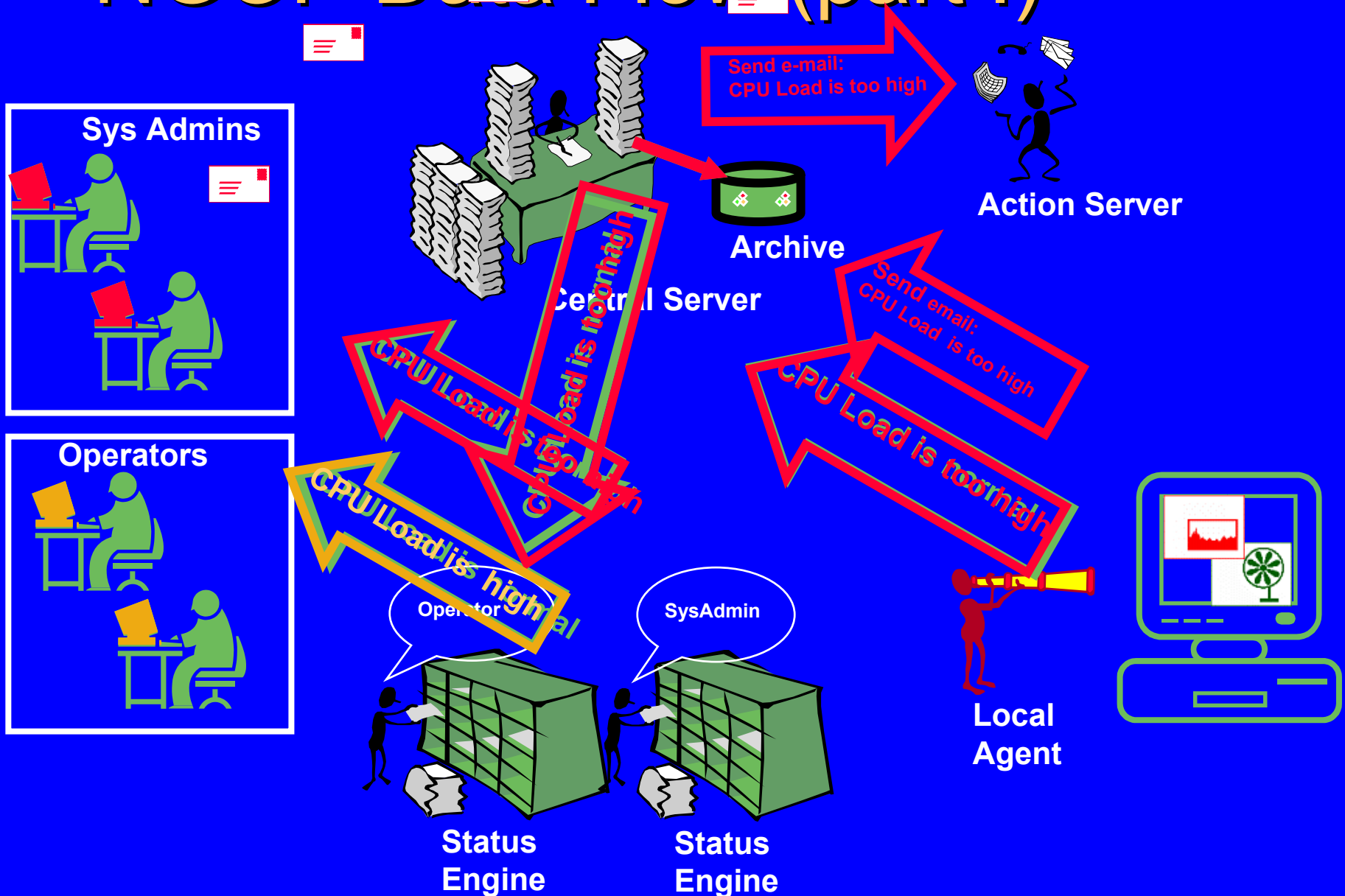
SevLevel=0 State=1 Source=misc_URL_agent_ngopsrv.ma_ngopsrv

Monitoring Agents

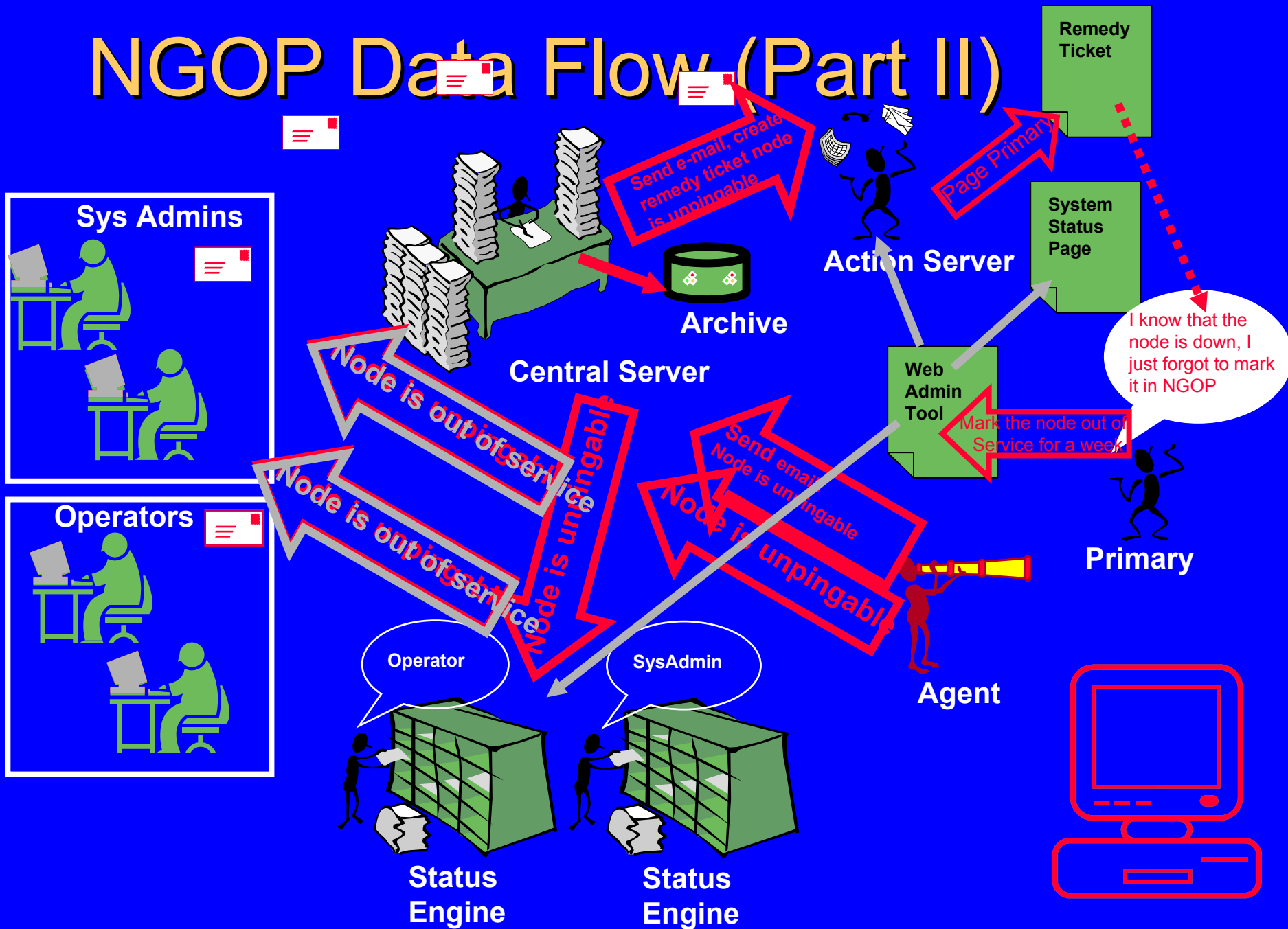
Monitoring Agents (MA) are processes that monitor monitoring objects and report a status to the NCS. NGOP provides a basic set of MA's, but users are free to write their own:

- Distributed Centralized Agents:
 - Ping Agent
 - URL Agent
- Local Agent
 - Swatch Agent
 - Health Agent
- Custom Agents:
 - FBSNG Batch
 - Enstore Cron

NGOP Data Flow (part I)



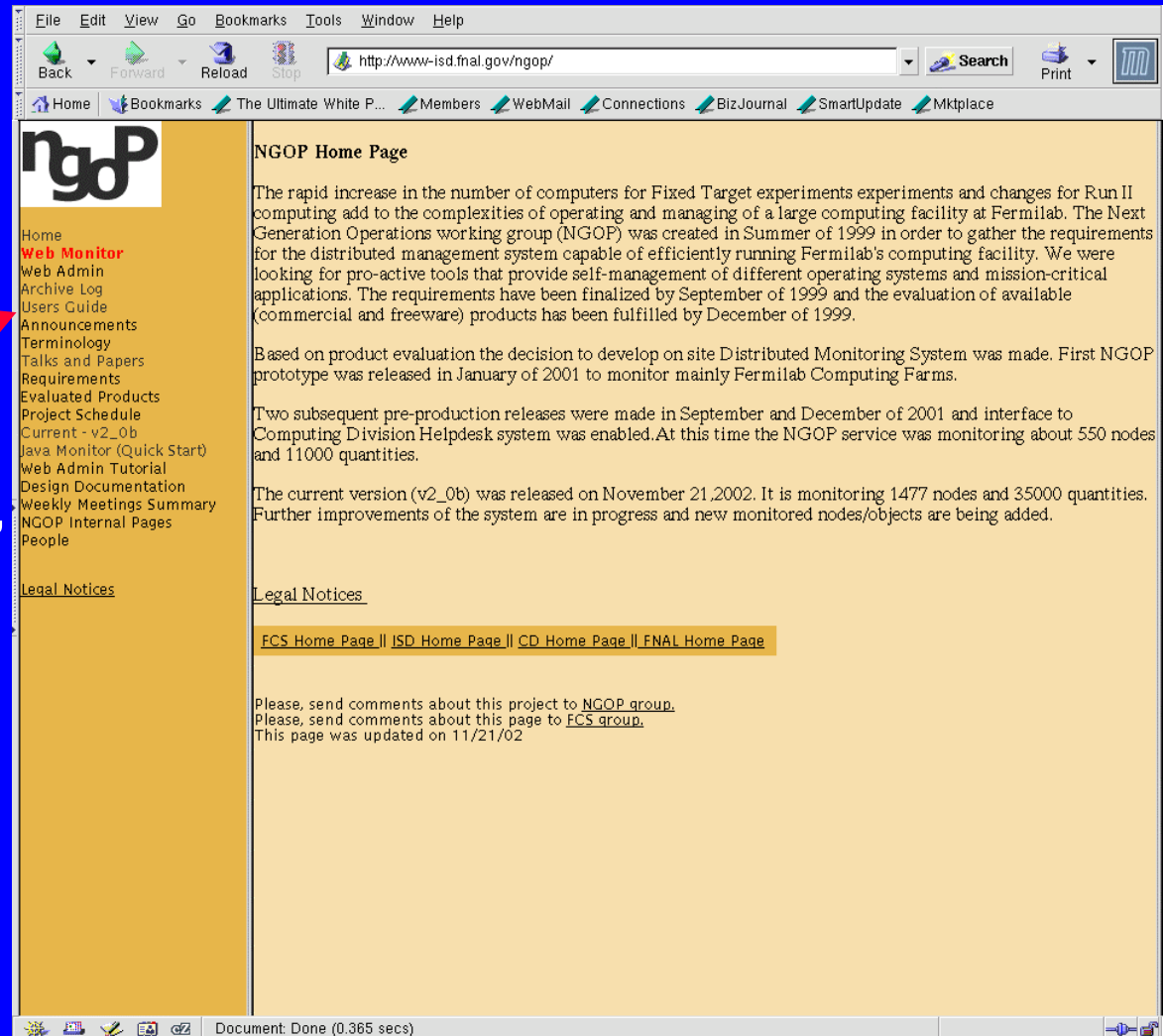
NGOP Data Flow (Part II)



NGOP Archiver

- Responsible for storing/retrieving messages generated by NGOP.
- Data stored in Oracle database
- Cleanup process runs daily – 14 days of data is available.
- Archive server caches messages from the NGOP Central Server. A separate process (Database Interface) periodically reads cached messages and puts them in Oracle.
- “Best effort” used to store messages. Some messages may be dropped.
- MISCOMP type web based interface.

Archive Web Interface



Select Archive Log

From the main NGOP page,
click "Archive Log"

Archive Main Page

Two selections:

- Message Log
 - NGOP messages
- Action Log
 - NGOP actions (Page, email, etc...)

Query Page

- Default query is to select on a range of dates (00:01 of current day to present)
- 40 rows/page, 4000 max rows selected is the default.
- Build Custom Query link allows for more sophisticated queries.

The screenshot shows a web browser window with the address bar displaying `http://miscomp.fnal.gov/ngop/message_log.html`. The browser's menu bar includes File, Edit, View, Go, Bookmarks, Tools, Window, and Help. The toolbar contains Back, Forward, Reload, Stop, Search, and Print buttons. The bookmarks bar lists Home, Bookmarks, The Ultimate White P..., Members, WebMail, Connections, BizJournal, SmartUpdate, and Mktplace.

The main content area of the page has the heading "This page allows you to list NGOP message log entries from the MESSAGE_LOG table". Below this, there are several input fields and a "Run" button:

- "Show Records Logged Since" with a date input field containing "12/06/2002".
- "until" with a date input field containing "12/31/2010" and a label "(mm/dd/yyyy)".
- "MESSAGE_LOG Sorted by Timestamp:".
- "How many rows do you want to see per page?" with a dropdown menu set to "40".
- "What is the maximum number of rows you want to see?" with a dropdown menu set to "4000" and a "Select Output Type" dropdown menu.
- A "Run" button.

Below the "Run" button, there is a section titled "Build Your Own Query" in red text. It contains three buttons: "Message Log Table", "Build custom Query", and "Edit custom Query". A large red arrow points from the "Build custom Query" button towards the bottom right of the page.

At the bottom of the page, there is a footer area with the text "For help contact miscomp@fnal.gov" and a link to "MISWEB Home Page". Below this is the text "MISWEB Query Interface". The browser's status bar at the very bottom shows "Document: Done (0.202 secs)".

Archive Custom Query

This form allows you to query the MISCOMP Database using the tables: MESSAGE_LOG

You can pick the columns you want printed in your output, and pick the columns you are allowed to pick any number of columns for printing, but only 3 search criteria. Query output will be printed in html tables.

Output Columns for MESSAGE_LOG

☒ Description ☐ Event_Value ☐ Severity_Level
☐ Description_Id ☐ Format_Version ☐ State
☐ Event_Name ☒ Monitored_Object_Id ☒ Timestamp
☐ Event_Type ☒ Monitoring_Agent_Id ☐ Unix_Timestamp

Query Options for MESSAGE_LOG

Monitored_Object_Id like %fncdf180%
Choose One like
Choose One like

Do you want your query options combined with ☒ AND ☐ OR logic applied?

Sort Order Options

Timestamp Descending
Sort Order Ascending
Sort Order Ascending

How many rows do you want to see per page? 20
What is the maximum number of rows you want to see? 240 Select Output Type

Query Action
For help contact miscomp@fnal.gov

MISWEB Query

* You are pointing to the procpd1 database.
* Try the various production query pages,
* available under the [MISCOMP Home Page](#)

MISCOMP Web Query Interface

MESSAGE_LOG

Description	Monitored_Object_Id	Timestamp	Monitoring_Agent
None	cpuLoad.fncdf180.OSHealth.fncdf180	06-DEC-02	LinuxHealthAgent
None	cpuLoad.fncdf180.OSHealth.fncdf180	06-DEC-02	Pingfncdf171-202.
Average_cpu_load_is_between_4_and_8_during_last_15_min	cpuLoad.fncdf180.OSHealth.fncdf180	06-DEC-02	LinuxHealthAgent
None	cpuLoad.fncdf180.OSHealth.fncdf180	06-DEC-02	LinuxHealthAgent
Average_cpu_load_is_between_4_and_8_during_last_15_min	cpuLoad.fncdf180.OSHealth.fncdf180	06-DEC-02	Pingfncdf171-202.
Average_cpu_load_is_between_4_and_8_during_last_15_min	cpuLoad.fncdf180.OSHealth.fncdf180	06-DEC-02	LinuxHealthAgent
None	cpuLoad.fncdf180.OSHealth.fncdf180	06-DEC-02	LinuxHealthAgent
Average_cpu_load_is_between_4_and_8_during_last_15_min	cpuLoad.fncdf180.OSHealth.fncdf180	06-DEC-02	Pingfncdf171-202.
None	cpuLoad.fncdf180.OSHealth.fncdf180	06-DEC-02	LinuxHealthAgent
Average_cpu_load_is_between_4_and_8_during_last_15_min	cpuLoad.fncdf180.OSHealth.fncdf180	06-DEC-02	Pingfncdf171-202.
Average_cpu_load_is_between_4_and_8_during_last_15_min	cpuLoad.fncdf180.OSHealth.fncdf180	06-DEC-02	LinuxHealthAgent
None	cpuLoad.fncdf180.OSHealth.fncdf180	06-DEC-02	Pingfncdf171-202.
None	cpuLoad.fncdf180.OSHealth.fncdf180	06-DEC-02	LinuxHealthAgent
Average_cpu_load_is_between_4_and_8_during_last_15_min	cpuLoad.fncdf180.OSHealth.fncdf180	06-DEC-02	Pingfncdf171-202.
Average_cpu_load_is_between_4_and_8_during_last_15_min	cpuLoad.fncdf180.OSHealth.fncdf180	06-DEC-02	LinuxHealthAgent
None	cpuLoad.fncdf180.OSHealth.fncdf180	06-DEC-02	Pingfncdf171-202.
None	cpuLoad.fncdf180.OSHealth.fncdf180	06-DEC-02	LinuxHealthAgent
Average_cpu_load_is_between_4_and_8_during_last_15_min	cpuLoad.fncdf180.OSHealth.fncdf180	06-DEC-02	Pingfncdf171-202.

Document: Done (0.344 secs)

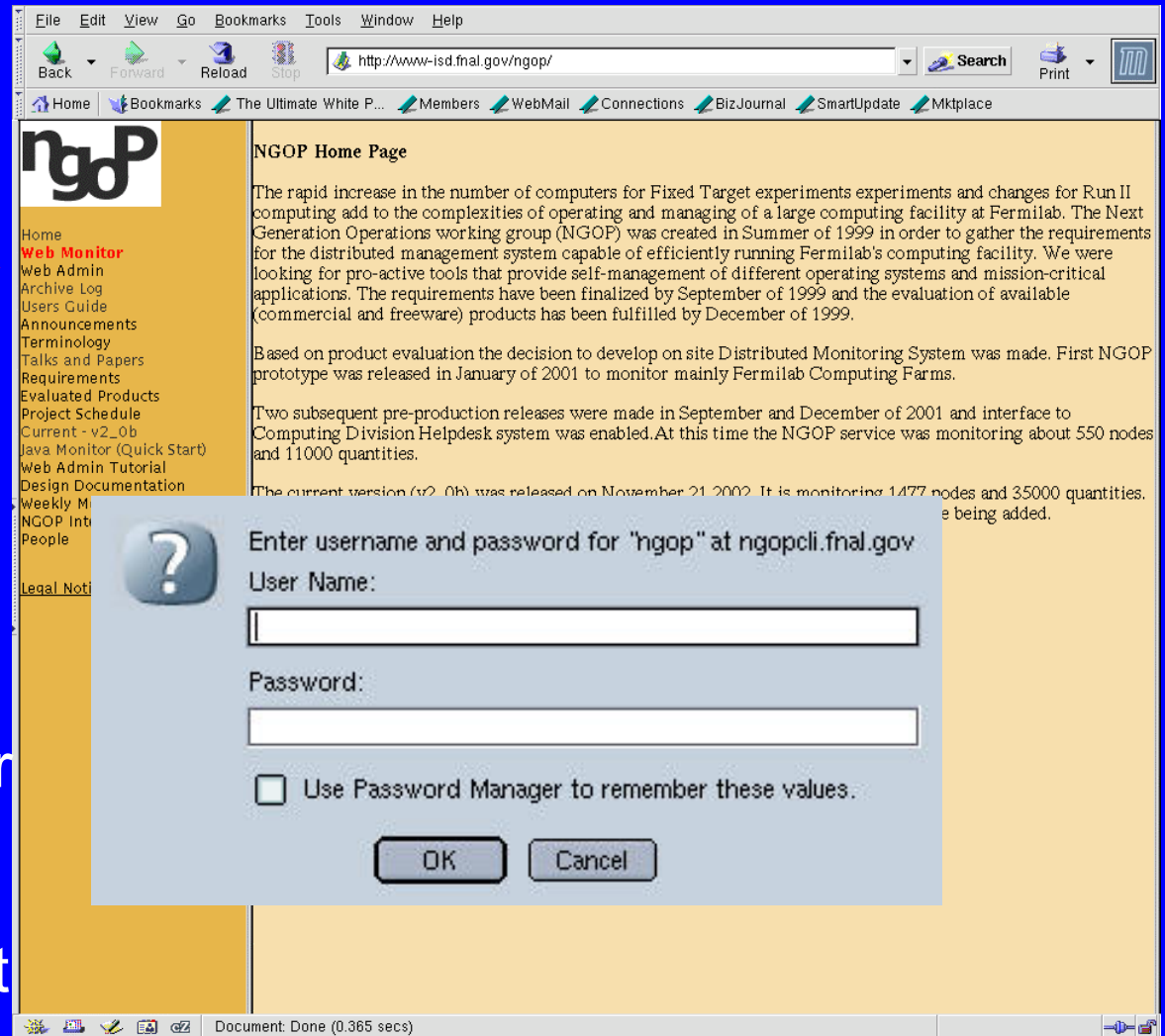
Document: Done (1.149 secs)

Run Query

NGOP Web Monitor

Select Web Monitor

- Login required
- Same login as for Web Admin Tool (Known Status) Helpdesk can get you a password



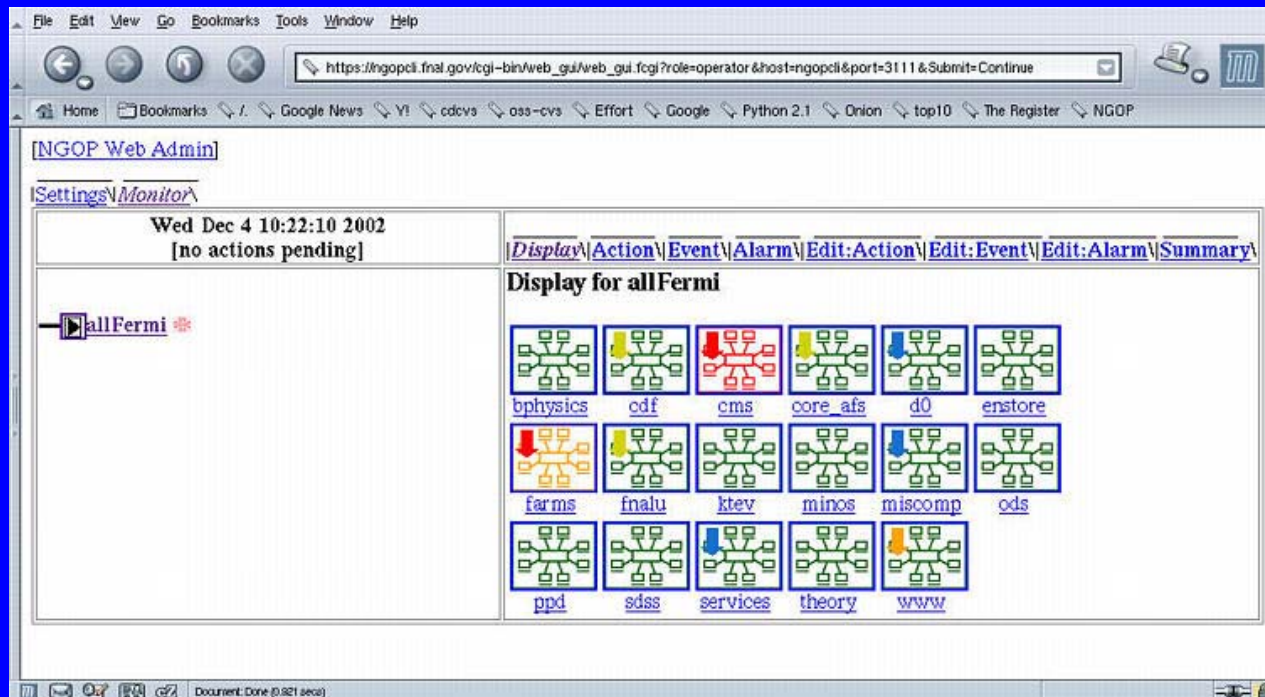
Monitor: Startup

Initially you choose a "Role" which maps to a Status Engine Common roles: operator,admin

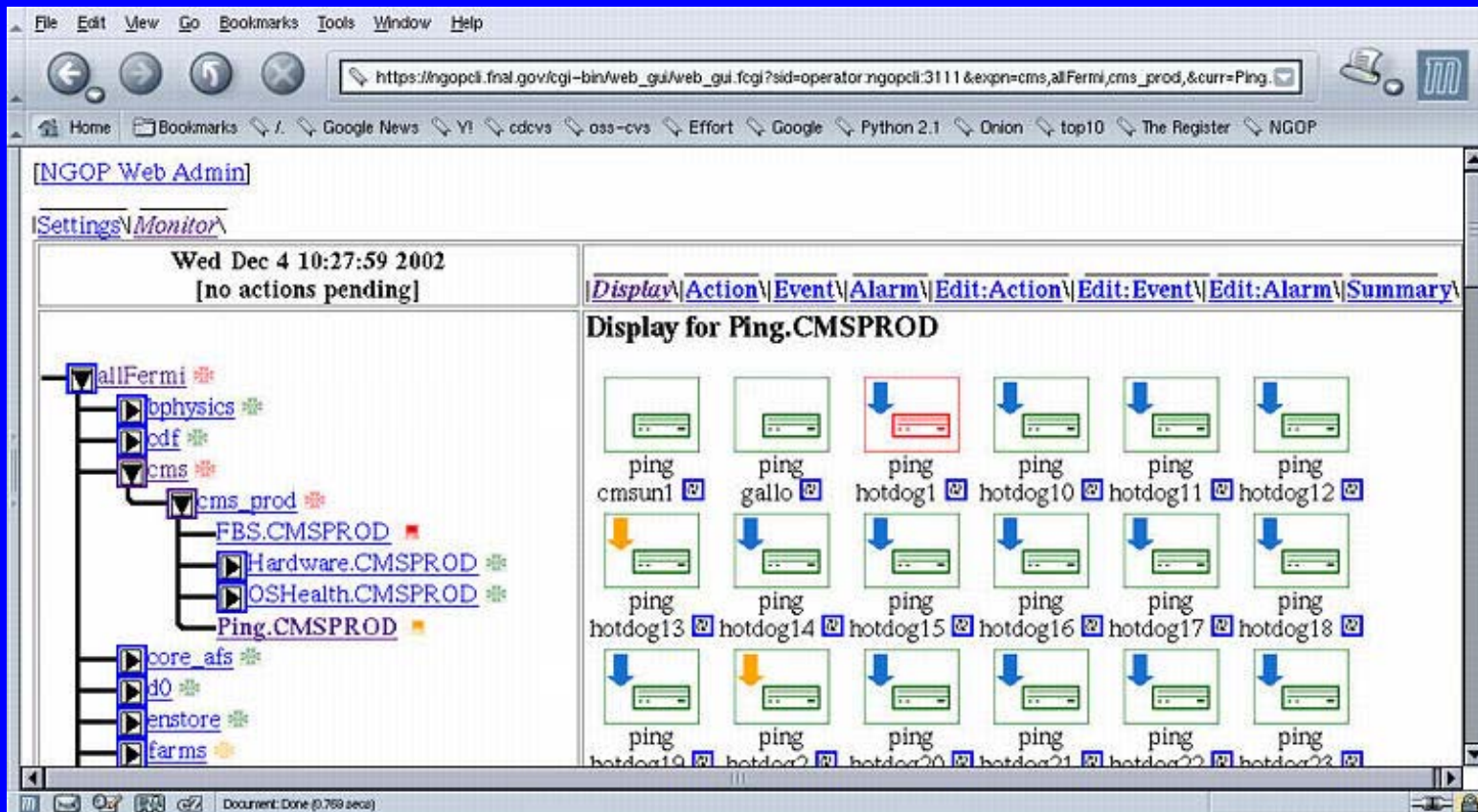


Monitor: Tabs

Pick tabs to display different things



Monitor: Left Side



- Displays component hierarchy
- Unfold with [**>**] buttons

Tab: Display

The screenshot shows a web browser window with the address bar displaying `https://ngopcli.fnal.gov/cgi-bin/web_gui/web_gui.fcgi?sid=operator.ngopcli:3111&expi=cms,allFermi,cms_prod,&curr=Ping.`. The browser's bookmark bar includes links like Home, Bookmarks, Google News, and various project-specific links. The main content area is titled "[NGOP Web Admin]" and shows a navigation menu with "Settings" and "Monitor". The "Monitor" section displays the date and time "Wed Dec 4 10:27:59 2002" and a status "no actions pending".

The "Display" tab is active, showing a tree view on the left with the following structure:

- allFermi
 - bphysics
 - pdf
 - cms
 - cms_prod
 - FBS.CMSPROD
 - Hardware.CMSPROD
 - OSHealth.CMSPROD
 - Ping.CMSPROD
 - core_afs
 - d0
 - enstore
 - farms

The main display area is titled "Display for Ping.CMSPROD" and shows a grid of 18 ping status icons arranged in 3 rows and 6 columns. Each icon represents a specific host and its ping status:

- Row 1: ping cmsun1, ping gallo, ping hotdog1 (highlighted with a red border), ping hotdog10, ping hotdog11, ping hotdog12.
- Row 2: ping hotdog13, ping hotdog14, ping hotdog15, ping hotdog16, ping hotdog17, ping hotdog18.
- Row 3: ping hotdog19, ping hotdog20, ping hotdog21, ping hotdog22, ping hotdog23, ping hotdog24.

Each icon consists of a green bar with a blue arrow pointing down. The "ping hotdog1" icon is highlighted with a red border, indicating a specific status or action.

Tab: Event

The screenshot shows a web browser window with the URL https://ngopcl.fnl.gov/cgi-bin/web_gui/web_gui.cgi?sid=operator.ngopcl:3111&expn=cms,allFermi,cms_prod,&curr=Ping. The page title is "[NGOP Web Admin]". The navigation menu includes "Settings" and "Monitor". The main content area displays the date and time "Wed Dec 4 10:28:47 2002" and the status "[no actions pending]". On the left, a tree view shows the hierarchy: "allFermi" (expanded) -> "bphysics" -> "cdf" -> "cms" -> "cms_prod" -> "FBS.CMSPROD" -> "Hardware.CMSPROD" -> "OSHealth.CMSPROD" -> "Ping.CMSPROD" (selected). The right panel shows the "Events for Ping.CMSPROD" table. The table has columns: "< Date", "ID", "Type", "Status", "SevLevel", "State", and "Source". The table contains three rows of events, all of which are "Bad" status.

< Date	ID	Type	Status	SevLevel	State	Source
2002-11-21 09:25:14	ping_hotdog38.	Hardware	Good	Good	1	PingCMSPROD
2002-11-21 09:25:15	ping_hotdog39.	Hardware	Good	Good	1	PingCMSPROD
2002-11-21 09:31:26	ping_hotdog35.	Hardware	Bad	Undefined	0	PingCMSPROD
2002-11-21 09:31:33	ping_hotdog36.	Hardware	Bad	Undefined	0	PingCMSPROD
2002-11-21	ping_hotdog37.	Hardware	Bad	Undefined	0	PingCMSPROD

Shows History of Events
Column headings are sort-by links

Tab: Alarm

The screenshot shows the NGOP Web Admin interface. The top status bar indicates the date and time: "Wed Dec 4 14:21:30 2002" and "[no actions pending]". The left navigation tree shows a hierarchy of components under "allFermi", including "bphysics", "cdf", "cms", "cms_prod", "FBS.CMSPROD", "Hardware.CMSPROD", "OSHealth.CMSPROD", "Ping.CMSPROD", "core_afs", "d0", "enstore", "farms", "fnalu", and "ktev". The right pane displays the "Alarms for Ping.CMSPROD" table.

< Date	ID	Type	Status	SevLevel	State	Description
2002-12-03 13:41:23	ping.hotdog1.	Hardware	Bad	Undefined	0	Host is unpingable for a least 5 minutes
2002-12-03 13:44:37	ping.hotdog33.	Hardware	Bad	Undefined	0	Host is unpingable for a least 5 minutes
2002-12-03 13:44:43	ping.hotdog34.	Hardware	Bad	Undefined	0	Host is unpingable for a least 5 minutes
2002-12-03 13:44:49	ping.hotdog35.	Hardware	Bad	Undefined	0	Host is unpingable for at least 5 min
2002-12-03 13:44:56	ping.hotdog36.	Hardware	Bad	Undefined	0	Host is unpingable for at least 5 min
2002-12-03 13:44:56	ping.hotdog37.	Hardware	Bad	Undefined	0	Host is unpingable for at least 5 min

Shows History of Alarms
Column headings are sort-by links

Tab: Action

The screenshot shows the NGOP Web Admin interface. The top navigation bar includes links for [Display](#), [Action](#), [Event](#), [Alarm](#), [Edit:Action](#), [Edit:Event](#), [Edit:Alarm](#), and [Summary](#). The main content area is titled "Actions for Ping.CMSPROD" and displays a table of action history. The table has columns for Start Time, End Time, ID, ActionID, State, ExitCode, Host, and User. The data shows several actions performed on 2002-12-03, all with a state of "Started" and an exit code of "-".

Wed Dec 4 10:36:13 2002
[no actions pending]

allFermi *
 ophysics *
 pdf *
 pdfcaf *
 cms *
 cms_prod *
 FBS.CMSPROD *
 Hardware.CMSPROD *
 OSHealth.CMSPROD *
 Ping.CMSPROD *
 cms_rd *
 cms_ref *
 core_afs *

< StartTime	EndTime	ID	ActionID	State	ExitCode	Host	User
2002-12-03 13:42:10		ping.hotdog8.	email	Started	-	ngopsrv.ro	
2002-12-03 13:44:52		ping.hotdog35.	email	Started	-	ngopsrv.ro	
2002-12-03 13:45:00		ping.hotdog36.	email	Started	-	ngopsrv.ro	
2002-12-03 13:45:08		ping.hotdog37.	email	Started	-	ngopsrv.ro	
2002-12-03		ping.hotdog38.	email	Started	-	ngopsrv.ro	

Shows history of Actions for components
Column headings are sort-by links

Edit:Action, Edit:Event, Edit:Alarm

Wed Dec 4 10:29:56 2002
[no actions pending]

Display | Action | Event | Alarm | Edit:Action | Edit:Event | Edit:Alarm | Summary

Events for Ping.CMSPROD

Apply Check All Clear All

< Date	ID	Type	Status	SevLevel	State	Source
2002-11-21 09:25:14	ping.hotdog38	Hardware	Good	Good	1	PingCMSPROD
2002-11-21 09:25:15	ping.hotdog39	Hardware	Good	Good	1	PingCMSPROD
2002-11-21 09:31:26	ping.hotdog35	Hardware	Bad	Undefined	0	PingCMSPROD

Host is unpingable for at least 5 min

- Like Action, Event, Alarm, except:
- doesn't refresh
 - has checkboxes to acknowledge

Tab: Summary

The screenshot shows the NGOP Web Admin interface. The browser address bar displays the URL: `https://ngopcli.fnal.gov/cgi-bin/web_gui/web_gui.fcgi?sid=admin.ngopcli:3111&expn=cdfcaf,allFermi,&curr=www&tab1=Monitor`. The interface has a menu bar with options: File, Edit, View, Go, Bookmarks, Tools, Window, Help. Below the menu bar, there are navigation links: [NGOP Web Admin], [Settings], and [Monitor]. The main content area is titled "Wed Dec 4 14:19:22 2002 [no actions pending]". On the left, there is a tree view showing a hierarchy of components under "allFermi". The right pane shows the "Summary for www" tab, which contains a table with columns: ID, Status, SevLevel, and Event Type. The table lists various ping events for the 'www' component, all with a status of 'Good'.

ID	Status	SevLevel	Event Type
Ping.WWW_CNTRL	Good		
ping.expwww0.	Good		
ping.fnalpubs.	Good		
ping.s-s-alteon-fcc.	Good		
ping.ultraseek0.	Good		
ping.www.	Good		
ping.www0.	Good		
Ping.WWW_CSD	Good		
ping.csdserver1.	Good		
ping.csdserver2.	Good		

Lists 2 layers of hierarchy

Lists last 2 Event/Alarms for each component

Always sorted by ID

NGOP Java Monitor

- It is described at: <http://www-isd.fnal.gov/ngop/> under Java Monitor (Quick Start); or directly at: http://www-isd.fnal.gov/ngop/v2_0/ngop_jm_v2_0b.html
- For the purpose of this tutorial jmonitor jar file can be downloaded from:
http://www-isd.fnal.gov/ngop/v2_0/jars/ngop_gui.jar
- If java “1.4” is installed properly on a given machine jmonitor can be run by issuing:
`java -jar ngop_gui.jar`

Jmonitor – quick start

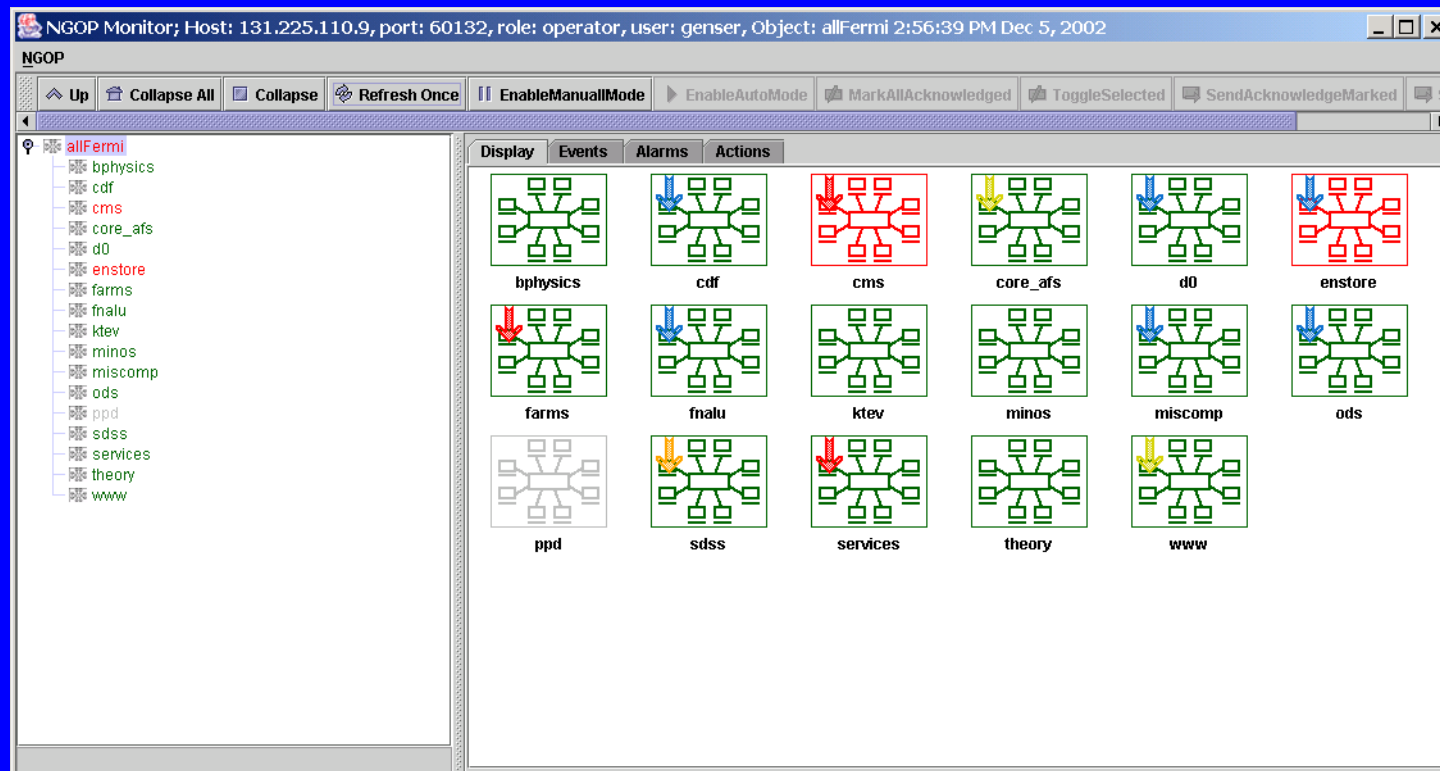
- After issuing `java -jar ngop_gui.jar` one should see a window similar to:



- Please select a role and click Start NGOP Monitor

Jmonitor – quick start, cont'd

After a role is selected a window similar to the one below should appear:

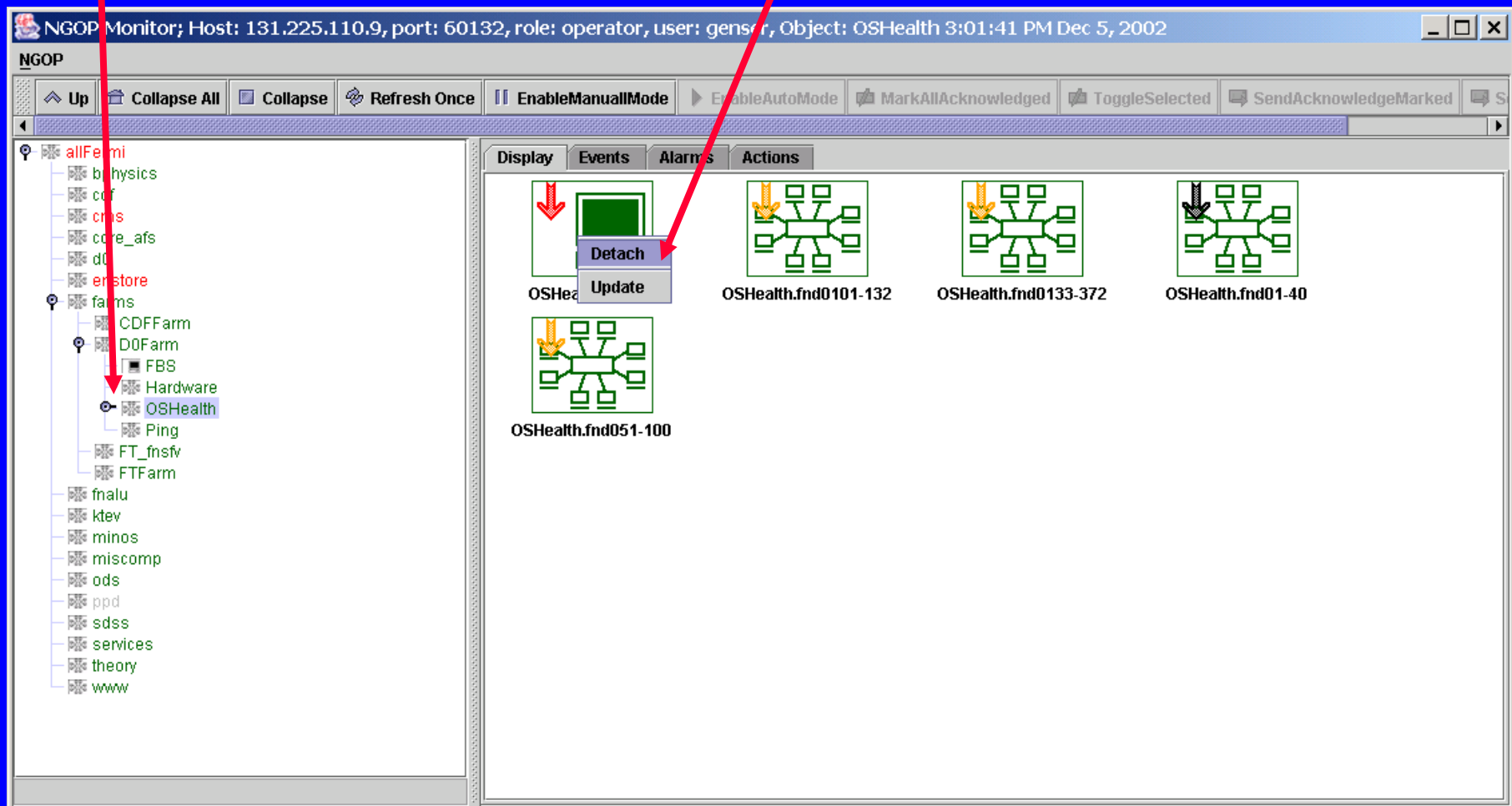


Message Field

Jmonitor – navigating the tree

Clicking creates expand/collapse handles if needed

Right Click shows a submenu



Jmonitor – navigating the tree

- Browse the tree by clicking on the tree nodes or elements of the Display tab. The (default) Display tab will show the selected elements. Right clicking on the Display tab elements will show a detach/update menu for the elements which allow the operations.
- "Up", "Collapse All" and "Collapse" buttons affect the way the tree is displayed.
- It may take 10-15sec to refresh the views depending on the machine and system load or the amount of information to be retrieved

Jmonitor – using history panes

Items marked for acknowledgement

Updates suspended

Selected marks can be toggled

Sorted by
SevLevel

NGOP Monitor; Host: 131.225.110.9, port: 60132, role: operator, user: genser, Object: OSHealth 3:12:55 PM Dec 5, 2002

NGOP

Up

Collapse All

Collapse

Refresh Once

EnableManualMode

EnableAutoMode

MarkAllAcknowledged

ToggleSelected

SendAcknowledgeMarked

S

allFermi

bphysics

cdf

cms

core_afs

d0

enstore

farms

CDFFarm

D0Farm

FBS

Hardware

OSHealth

Ping

FT_fnsfv

FTFarm

fnalu

ktev

minos

miscomp

ods

ppd

sdss

services

theory

www

Display

Events

Alarms

Actions

Ack	Date	ID	Type	Status	SevLevel	State	
<input type="checkbox"/>	2002-12-05 12:25:29:620	enstore_cntn.d0bbin.OSHealth.d0bbin	Daemon	0 Good	6 Bad	1	-
<input type="checkbox"/>	2002-12-05 12:25:25:680	enstore_cntn.d0bbin.OSHealth.d0bbin	Daemon	0 Good	6 Bad	1	-
<input type="checkbox"/>	2002-12-05 12:24:12:320	enstore_cntn.d0bbin.OSHealth.d0bbin	Daemon	0 Good	6 Bad	1	-
<input type="checkbox"/>	2002-12-05 12:23:42:040	enstore_cntn.d0bbin.OSHealth.d0bbin	Daemon	0 Good	6 Bad	1	-
<input type="checkbox"/>	2002-12-05 12:23:41:060	enstore_cntn.d0bbin.OSHealth.d0bbin	Daemon	0 Good	6 Bad	1	-
<input type="checkbox"/>	2002-12-05 12:23:27:070	enstore_cntn.d0bbin.OSHealth.d0bbin	Daemon	0 Good	6 Bad	1	-
<input type="checkbox"/>	2002-12-05 12:11:34:650	nfsd.d0bbin.OSHealth.d0bbin	Daemon	0 Good	6 Bad	1	-
<input type="checkbox"/>	2002-12-05 12:11:02:690	enstore_cntn.d0bbin.OSHealth.d0bbin	Daemon	0 Good	6 Bad	1	-
<input type="checkbox"/>	2002-12-05 12:10:54:130	enstore_cntn.d0bbin.OSHealth.d0bbin	Daemon	0 Good	6 Bad	1	-
<input type="checkbox"/>	2002-12-05 12:10:22:210	enstore_cntn.d0bbin.OSHealth.d0bbin	Daemon	0 Good	6 Bad	1	-
<input type="checkbox"/>	2002-12-05 12:09:44:250	enstore_cntn.d0bbin.OSHealth.d0bbin	Daemon	0 Good	6 Bad	1	-
<input type="checkbox"/>	2002-12-05 12:09:37:420	enstore_cntn.d0bbin.OSHealth.d0bbin	Daemon	0 Good	6 Bad	1	-
<input type="checkbox"/>	2002-12-05 10:51:40:180	cpuLoad.d0bbin.OSHealth.d0bbin	sysUsage	0 Good	6 Bad	1	cpuLoad:25.2
<input type="checkbox"/>	2002-12-05 10:29:01:050	cpuLoad.d0bbin.OSHealth.d0bbin	sysUsage	0 Good	6 Bad	1	cpuLoad:26.9
<input type="checkbox"/>	2002-12-05 08:27:46:830	enstore_cntn.d0bbin.OSHealth.d0bbin	Daemon	0 Good	6 Bad	1	-
<input type="checkbox"/>	2002-12-05 08:27:07:100	enstore_cntn.d0bbin.OSHealth.d0bbin	Daemon	0 Good	6 Bad	1	-
<input type="checkbox"/>	2002-12-05 08:20:46:530	enstore_cntn.d0bbin.OSHealth.d0bbin	Daemon	0 Good	6 Bad	1	-
<input type="checkbox"/>	2002-12-05 08:23:31:510	enstore_cntn.d0bbin.OSHealth.d0bbin	Daemon	0 Good	6 Bad	1	-
<input type="checkbox"/>	2002-12-05 08:23:31:300	enstore_cntn.d0bbin.OSHealth.d0bbin	Daemon	0 Good	6 Bad	1	-
<input type="checkbox"/>	2002-12-05 20:28:01:530	enstore_cntn.d0bbin.OSHealth.d0bbin	Daemon	0 Good	6 Bad	1	-
<input type="checkbox"/>	2002-12-04 20:23:57:170	enstore_cntn.d0bbin.OSHealth.d0bbin	Daemon	0 Good	6 Bad	1	-
<input type="checkbox"/>	2002-12-04 20:23:41:810	enstore_cntn.d0bbin.OSHealth.d0bbin	Daemon	0 Good	6 Bad	1	-
<input type="checkbox"/>	2002-12-04 20:23:33:430	enstore_cntn.d0bbin.OSHealth.d0bbin	Daemon	0 Good	6 Bad	1	-
<input checked="" type="checkbox"/>	2002-12-04 16:22:44:900	enstore_cntn.d0bbin.OSHealth.d0bbin	Daemon	0 Good	6 Bad	1	-
<input checked="" type="checkbox"/>	2002-12-04 16:22:15:250	enstore_cntn.d0bbin.OSHealth.d0bbin	Daemon	0 Good	6 Bad	1	-
<input type="checkbox"/>	2002-12-05 15:00:43:860	memory.fnd0316.OSHealth.fnd0316	sysUsage	0 Good	5 Error	1	total:1027424
<input type="checkbox"/>	2002-12-05 14:57:59:300	memory.fnd056.OSHealth.fnd056	sysUsage	0 Good	5 Error	1	total:1027928

Jmonitor – using history panes

- The other tabs: Events, Alarms, Actions show tables of history items reverse sorted by time.
- The sort order can be (temporarily, for now) changed by clicking or "double clicking" (or "shift clicking") on the table column headers.
 - The refreshing (which will restore the time sort) can be suspended by pressing the "EnableManualMode" button.
- "EnableAutoMode" button will restore the automatic refreshing of the information

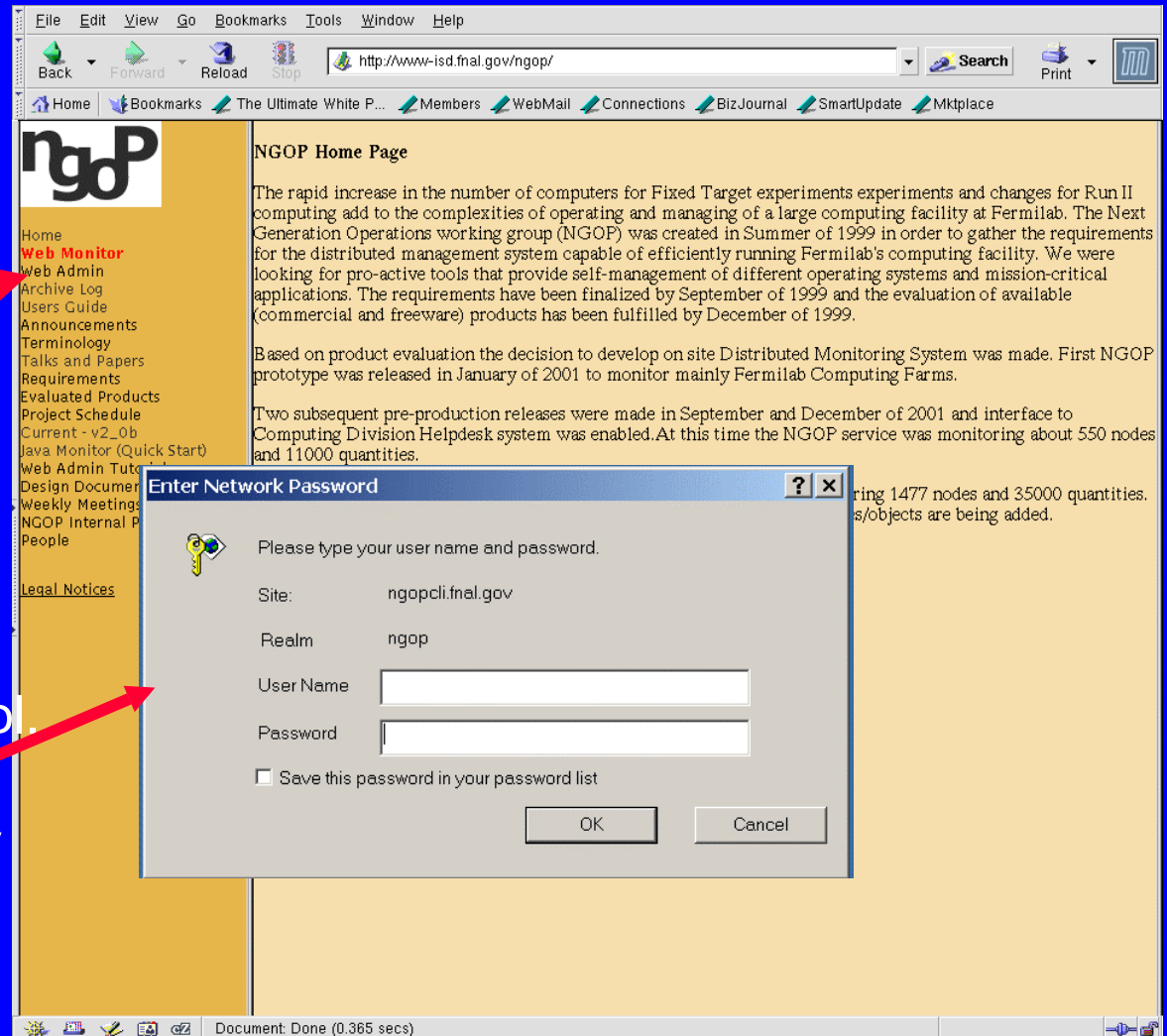
Jmonitor – how to exit it

- Jmonitor updates message field in the lower left corner before performing potentially long operations
- One exits the jmonitor by either closing the window or using the NGOP->Exit menu (or by Control-c or equivalent which is a non-confirm exit path)

Web Admin Tool

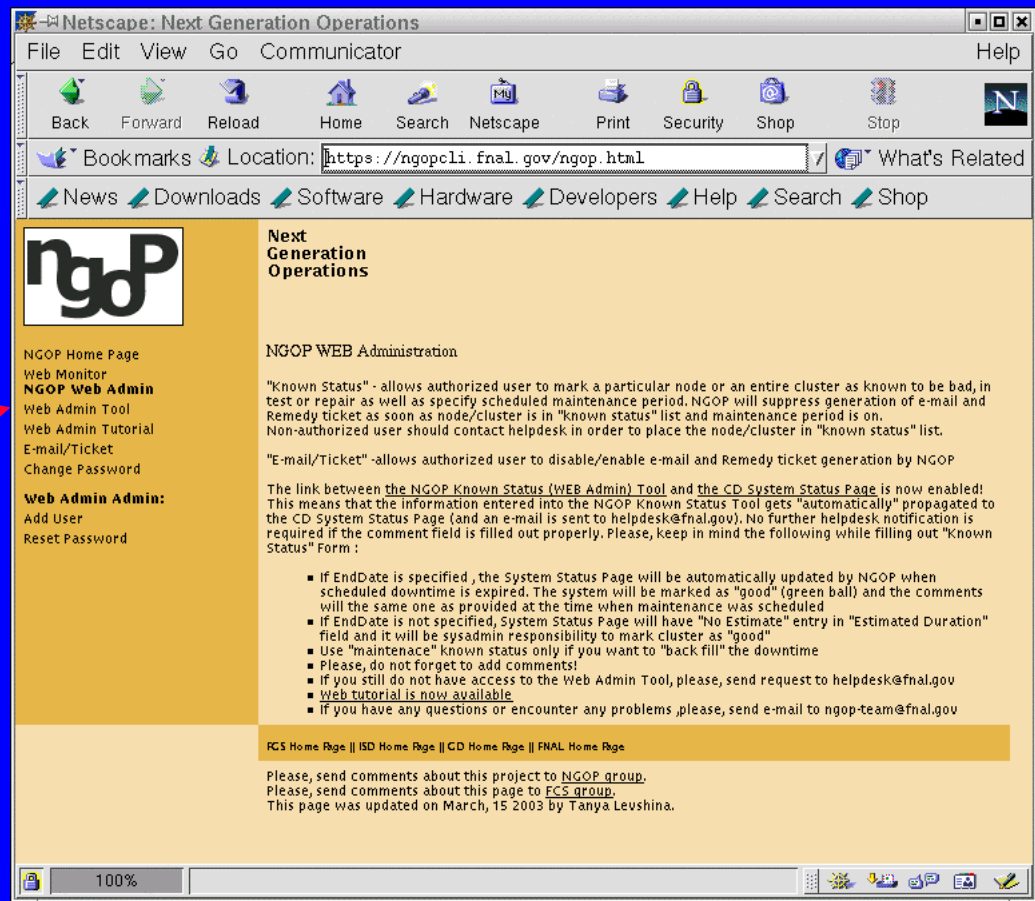
From the main NGOP page, click "Web Admin"

Only authorized user has access to Web Admin Tool.
The username and the password are provided by Helpdesk



NGOP Web Admin Page

Web Admin Page contains the multiple useful links that include Web Monitor, Web Admin Tutorial, E-mail/Remedy Ticket control page and the password managing page.



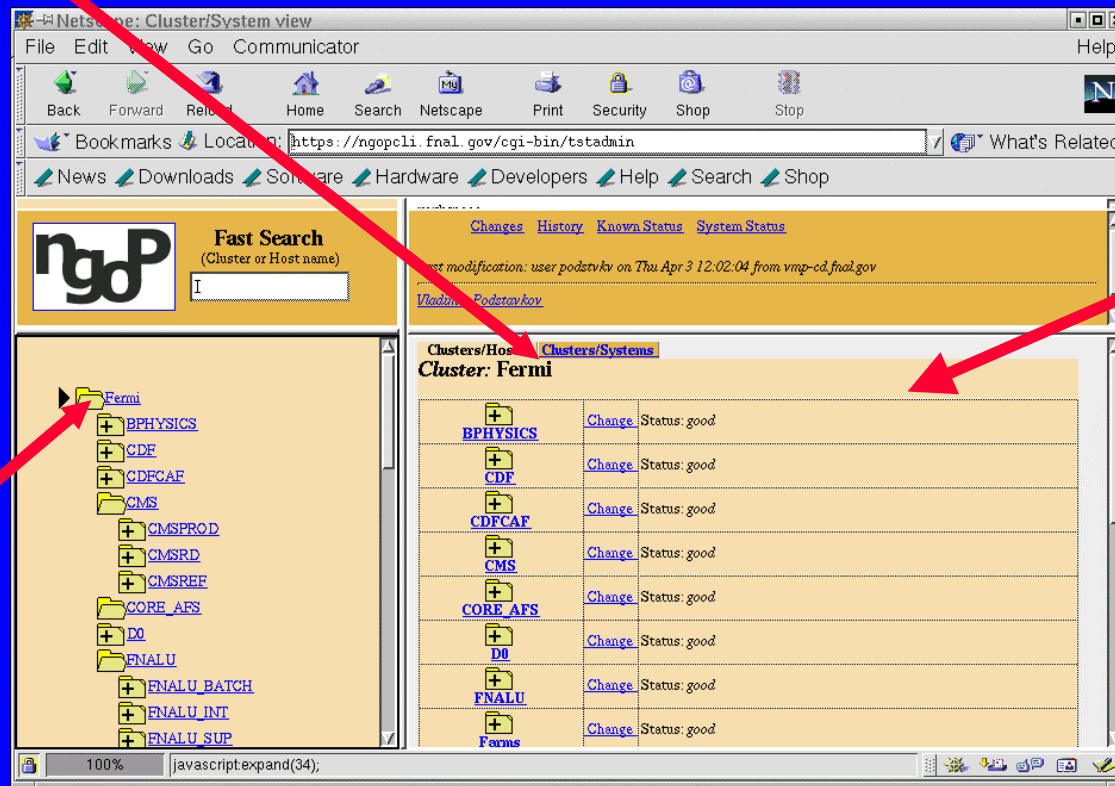
Click on "Web Admin Tool"

Web Admin Main Page

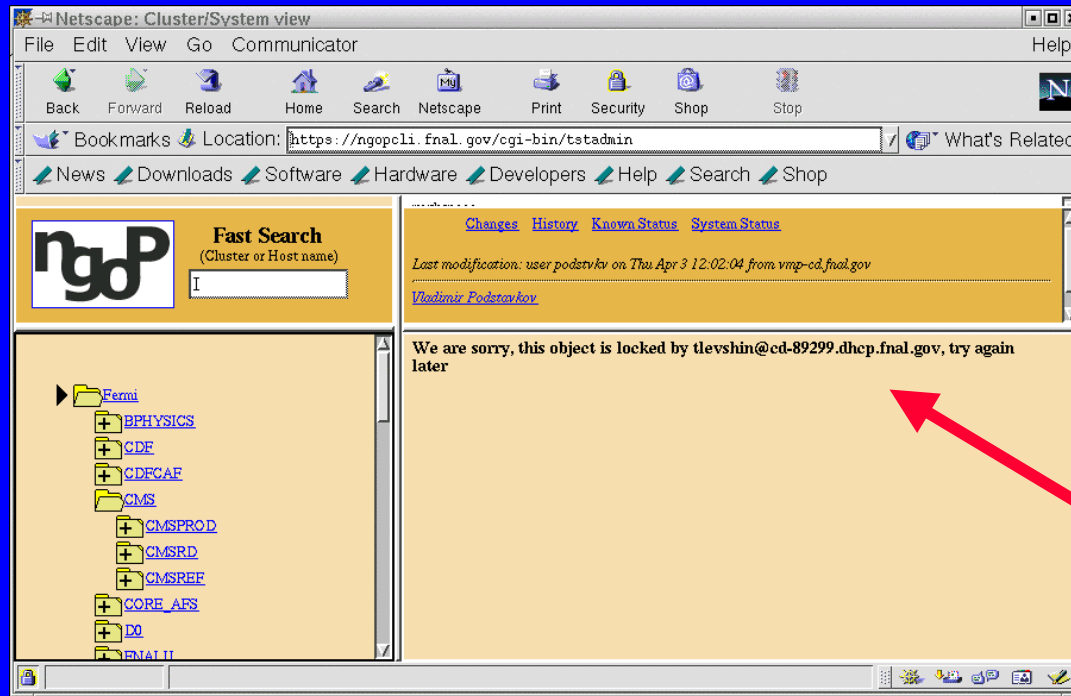
Two different views are available:
Cluster/Hosts (hardware hierarchy)
and Cluster/ Systems (monitored
objects hierarchy)

Left frame contains cluster tree, which you will use for navigation. If you click on the folder icon, the subfolders will appear. If you click on the cluster name, the cluster content will appear in the large right frame.

Right frame contains objects that belong to current cluster. Each object is represented by icon with the name, the current known status, the start and the end date of the maintenance period and some short comment for it.



Access Lock



Sometimes (not very often) you can see the top right frame with “Object locked” warning. It means that someone is using the service and isn’t done with the changes yet.

The lock expiration time is set to 15 minutes.

Search within the NGOP Hierarchy

Input the pattern for the name using "?" for the single character and "*" for the sequence and hit Enter key

The screenshot shows the Netscape browser window displaying the NGOP web interface. The address bar shows the URL <https://ngopcli.fnal.gov/cgi-bin/tstadmin>. The main content area is divided into several sections. On the left, there is a tree view of the NGOP hierarchy. In the center, there is a 'Fast Search' box with the input 'fncdf171'. On the right, there is a table of clusters. A red arrow points from the text 'Input the pattern for the name using "?" for the single character and "*" for the sequence and hit Enter key' to the search input field. Another red arrow points from the text 'The result will appear with the list of the names which comply with the pattern. Click on each name and the object will appear in the large right frame of the main window' to the search results window.

Fast Search
(Cluster or Host name)
fncdf171

Clusters/Hosts | **Clusters/Systems**
Cluster: Fermi

Cluster	Status
BPHYSICS	good
CDF	good
CDFCAF	good
CMS	good
CORE AFS	good
D0	good
FNALU	good
Fermi	good
KTEV	good
MASS STORAGE	good

Search result

- Cluster CDF Fermi Worker: fncdf171-202
- Cluster fncdf171-202: fncdf171
- Cluster fncdf171-202: fncdf172
- Cluster fncdf171-202: fncdf173
- Cluster fncdf171-202: fncdf174
- Cluster fncdf171-202: fncdf175
- Cluster fncdf171-202: fncdf176
- Cluster fncdf171-202: fncdf177
- Cluster fncdf171-202: fncdf178
- Cluster fncdf171-202: fncdf179
- Cluster fncdf171-202: fncdf180
- Cluster fncdf171-202: fncdf181
- Cluster fncdf171-202: fncdf182
- Cluster fncdf171-202: fncdf183
- Cluster fncdf171-202: fncdf184
- Cluster fncdf171-202: fncdf185
- Cluster fncdf171-202: fncdf186
- Cluster fncdf171-202: fncdf187
- Cluster fncdf171-202: fncdf188
- Cluster fncdf171-202: fncdf189
- Cluster fncdf171-202: fncdf190
- Cluster fncdf171-202: fncdf191
- Cluster fncdf171-202: fncdf192
- Cluster fncdf171-202: fncdf193
- Cluster fncdf171-202: fncdf194
- Cluster fncdf171-202: fncdf195

The result will appear with the list of the names which comply with the pattern. Click on each name and the object will appear in the large right frame of the main window

Current Known Status View

Click on
“Known Status”
to see “out of
service” clusters,
hosts, systems or
monitored
elements.

New window will
appear with the
list of all objects
with the
maintenance
period set. Each
name is a link
that can used it
to find the object

Fast Search
(Cluster or Host name)

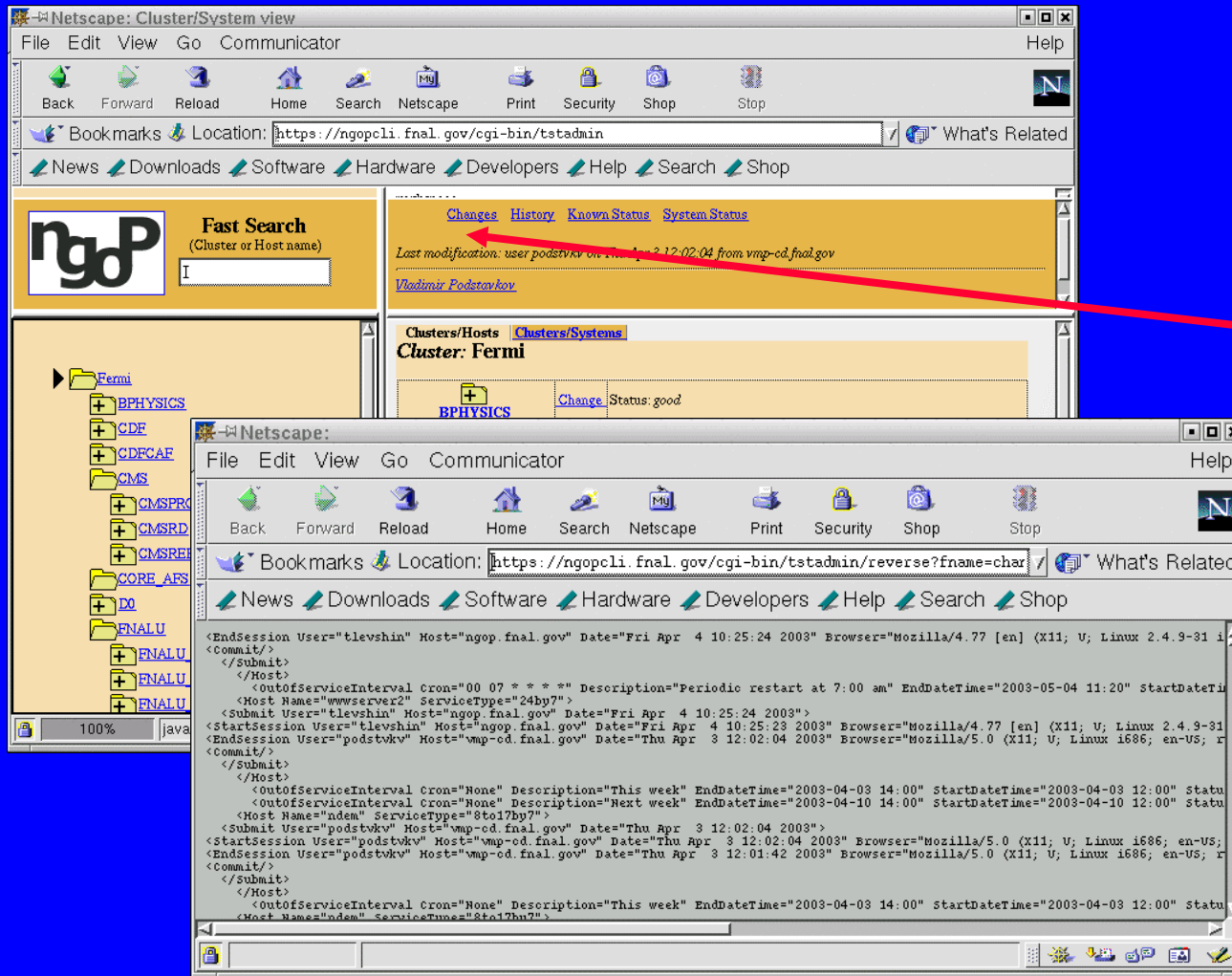
Clusters/Hosts **Clusters/Systems**
Cluster: Fermi

System	Change	Status
BPHYSICS	Change	Status: good
CDP	Change	Status: good
CDFCAF	Change	Status: good
CMS	Change	Status: good
CMSPROD	Change	Status: good
CMSRD	Change	Status: good
CMSREF	Change	Status: good
CORE_AFS	Change	Status: good

Clusters/hosts/systems/elements in service

Type	Id	Status	Start Date	End Date	Periodic
Host	d0enmvw26a	bad	01-09-2003 09:10		None
Comment: Off-line for now					
Host	d0enmvw27a	bad	01-09-2003 09:20		None
Comment: Off-line for now					
Host	d0enmvw33a	bad	01-09-2003 09:20		None
Comment: Off-line for now					
Host	d0enmvw34a	bad	01-09-2003 09:20		None
Comment: Off-line for now					
Host	d0enmvw35a	bad	01-09-2003 09:20		None

Changes Log View



Click on "Changes" to see all changes that were made since Monday 6:00 AM the current week

Change the Known Status

Find the element you want to change.

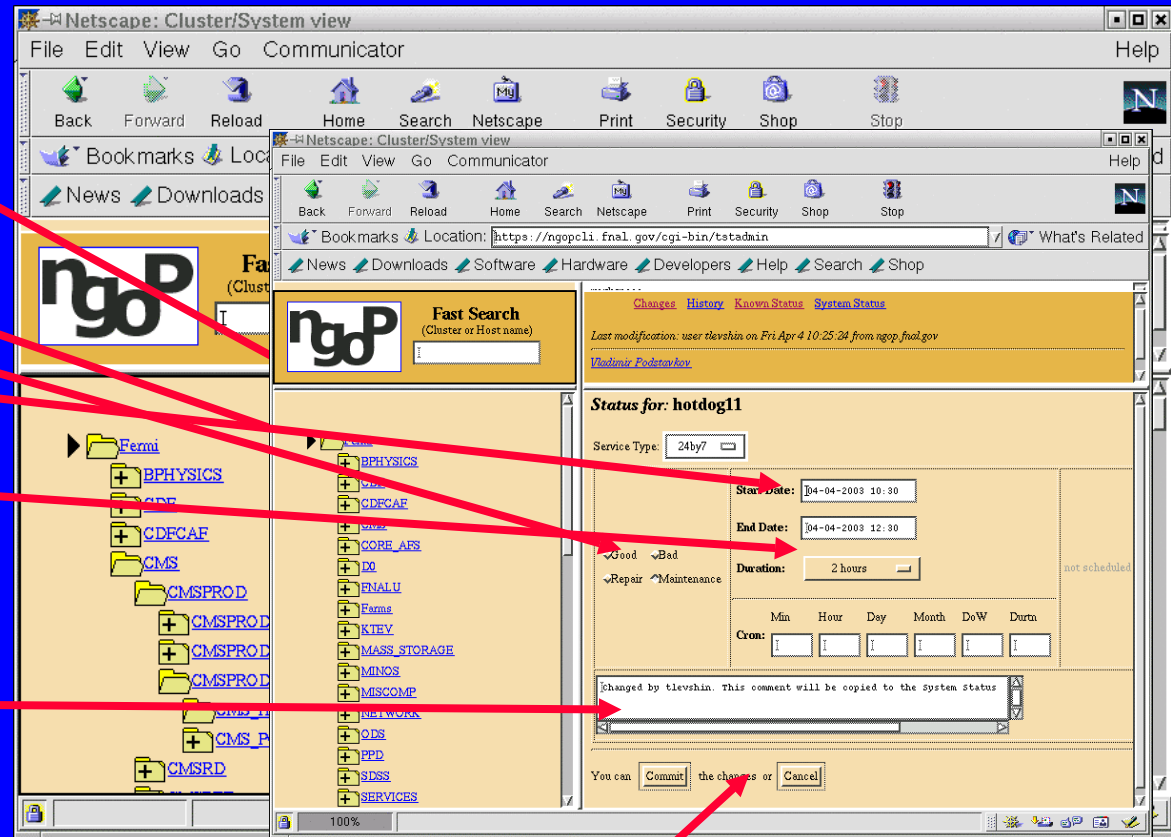
Click “Change”

Choose status

Modify start date

Select “Duration”
or fill out End Date

Fill the comments field
(the comments will be
seen on Status Page)



Click on “Commit” when all necessary modification are done on the selected page
(Click on “Cancel” to remove all changes)

Add new Known Status

You can schedule multiple service Intervals. Choose “Add” to add new Known Status.

The screenshot shows a Netscape browser window titled "Netscape: Cluster/System view". The address bar shows the URL "https://ngopcli.fnal.gov/cgi-bin/tstadmin". The page has a navigation bar with links: Back, Forward, Reload, Home, Search, Netscape, Print, Security, Shop, Stop. Below the navigation bar is a "Fast Search" section with the ngop logo and a search input field. The main content area is divided into two panes. The left pane shows a tree view of the cluster hierarchy with folders like BPHYSICS, CDF, CDFCAF, CMS, CORE_AFS, D0, FNALU, Farms, KTEV, MASS_STORAGE, MINOS, MISCOMP, NETWORK, QDS, PPD, SDSS, and SERVICES. The right pane shows the "Known Status" tab for the "Cluster: CMS_HOTDOGS". It displays a table of hotdog nodes with their status and a "Change" link. A red arrow points from the text "Choose 'Add' to add new Known Status." to the "Add" link for hotdog11.

Node	Change	Status	Comments
hotdog1 0by0	Change	good	
hotdog10 0by0	Change	good	
hotdog11 24by7	Change	maintenance	From: 04-04-2003 10:30 To: 04-04-2003 12:30 in progress Changed by tlevshin. This comment will be copied to the System Status Page and seen by users.
hotdog12 0by0	Change	good	
hotdog13 0by0	Change	good	
hotdog14 0by0	Change	good	
hotdog15 0by0	Change	good	

Remote Access

There are two primitive scripts for two basic operations which allow to submit the changes for one object at a time and to commit the changes after one or more submissions. These scripts can be used in any custom script.

An example of a simple session using these scripts:

Change the status of fncdf1 host in the cluster CDEFFarm1 to 'bad'

```
> rsh -l ngopadmin ngopcli python /home/ngopadmin/Zope/submit.py \  
    CDEFFarm1 fncdf1 host bad
```

Change the status of fncdf1 host in the cluster CDEFFarm1 to 'bad' with the start date, end date and the comment.

```
> rsh -l ngopadmin ngopcli python /home/ngopadmin/Zope/submit.py \  
    CDEFFarm1 fncdf2 host bad '"07-12-2002 10:00"' \  
    '"07-12-2002 16:00"' '"This is just a test"'
```

Commit the changes

```
> rsh -l ngopadmin ngopcli python /home/ngopadmin/Zope/commit.py
```

Summary

- What you should learn by now:
 - What is NGOP and whom to blame when you are paged at 3 am
 - How to mark the node, cluster and monitored object out of service, so nobody would page you at 3 am
 - How to navigate through NGOP Monitor in order to see what really happened
- Feedback is desperately needed!!!
 - It is nice to gather requirements **before** the new version is released
 - The various complains/comments allows us to understand how to improve the product

Where to Get More Information

- Other training sessions will include:
 - NGOP XML
 - General overview of XML
 - General structure of NGOP XML configuration
 - NGOP Monitoring Agents:
 - "centralized" agents and how to request the new object to be monitored
 - Ping Agent
 - URL Agent
 - Swatch Agent
 - Plugins Agent
 - How to write your own agent using API
 - NGOP Hierarchy definition and status rules
 - How to write your own configuration using NGOP XML
 - NGOP Administration and Installation

Where to Get More Information

- URL: <http://www-isd.fnal.gov/ngop>
- E-mail: ngop-team@fnal.gov